भारतीय मानक
Indian Standard

IS 5459 : 2023

बेसबॉल — विशिष्टि

(पहला पुनरीक्षण)

Baseballs — Specification

(First Revision)

ICS 97.220.40

भारतीय मानक ब्यूरो
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January 2023 **Price Group 5**

Sports Goods Sectional Committee, PGD 41

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by Sports Goods Sectional Committee had been approved by the Production and General Engineering Division Council.

Baseball is a bat-and-ball game played between two opposing teams, that take turns batting and fielding. The game proceeds when a player on the fielding team, called the pitcher, throws a ball that a player on the batting team tries to hit with a bat. This standard prescribes the details of 'Ball' used in the baseball game.

This standard was first published in 1969. In this revision, requirements were altered to align the standard with, the latest international rules of the game and taken up to keep pace with the latest technological developments and international practices. In preparing for this standard, rules and regulations of the game accepted internationally have been adhered to while giving consideration to the manufacturing and testing practices prevalent in the country and abroad. In this revision following major changes have been made:

a) Material specifications have been updated;
b) Baseball have been categorised into six different types based on their uses; and
c) Test methods have been added.

The composition of the Committee, responsible for the formulation of this standard is listed in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'.

Indian Standard

BASEBALLS — SPECIFICATION

(First Revision)

1 SCOPE

This standard prescribes requirement for the balls used in baseball games.

2 REFERENCE

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreement based on standards are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
IS 9873 (Part 3) : 2020	Safety of toys: Migration of certain elements (*third revision*),
(Part 6) : 2021	Determination of certain phthalate esters in toys and children's products (*first revision*),
(Part 9) : 2017	Certain phthalate esters in toys and children's products

3 CLASSIFICATION

Baseballs are classified into following categories based on their uses:

a) Safety baseballs — It is recommended to use for 3 to 8 years old.
b) Reduced injury factor baseballs — It is recommended to use for 8 years and above.
c) Youth tournament baseballs — It is recommended to use for 8 to 14 years old.
d) High school and college baseballs — It is recommended to use for school and college tournaments.
e) Practice baseballs — It is recommended to use for 8 years and above.
f) Professional grade baseballs — It is recommended to use for 14 years and above.

4 REQUIREMENTS

4.1 Material

4.1.1 *Core*

Core shall be made of compressed corkwood, natural rubber, synthetic rubber, PU or any combination of said materials. It shall be unwound or wound with layers of yarn uniformly over the core made from the materials mentioned above.

The core of the ball is classified into following types based on materials used:

a) Kapok, synthetic fibers (polyfill), or cotton
b) Very soft PU or foam core — Soft foam core for use in ball for small children.
c) Soft PU or foam core — Foam core harder than kapok, synthetic fibers and cotton but still soft enough not to harm young learning athletes.
d) Cushioned corkwood core — Compressed corkwood core which is covered with rubber, or foam on top so that it feels soft but is hard enough to be used in youth tournaments.
e) Compressed corkwood core — Compressed corkwood core is as the name suggests cork wood compressed to make a ball, rubber is used to help cork wood stick together.

4.1.2 *Cover*

The cover of the ball can be made of leather, synthetic leather, PU coated fabric, or PVC coated fabric lined or unlined as agreed between purchaser and manufacturer but shall maintain a uniform stretch so as to avoid ball losing shape in usage.

4.1.3 *Inks*

The inks used to print on the balls shall be non-toxic.

4.2 Shape, Dimension, and Weight

Shape, dimension, and weight for various types of balls shall be as given in Table 1

5 CONSTRUCTION AND WORKMANSHIP

Core shall be obtained as per quality detailed **4.1.1** above. The two sections of the cover shall then be stitched over this, as shown in Fig. 1. The sections shall be well stitched and the stitches shall be well stretched out. The thread used for stitching shall be strong enough to withstand regular usage. The finished ball shall be substantially round.

FIG 1. BASEBALL

Table 1 Requirements of Baseball
(*Clause* 4.2)

Sl No.	Description	Requirement					
		Safety balls	Reduced injury factor baseballs (SEV INDEX levels)	Youth tournament baseballs.	High-School and college baseballs.	Practice baseballs.	Professional-grade baseballs.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i)	Age Range, years	3-8	8 and above	8-14	For school and college tournaments	8 and above	14 and above
ii)	Weight, g	Buyer dependent	Buyer dependent	135-149	142-149	142-149	142-149
iii)	Circumference, mm	Buyer dependent	204-235	219-235	219-235	219-235	229-235
iv)	Core	Very Soft PU/ foam core/ kapok/ polyfill/ cotton	Soft PU/ foam core	Soft/ cushioned corkwood Core	Compressed corkwood and rubber core with yarn windings. Yarn is wound such that core feels softer than the professional ball.	Compressed corkwood and rubber core with or without yarn windings/ hard synthetic/PU core/ kapok or any combination thereof.	Compressed corkwood and rubber core with yarn windings.
v)	Cover	Soft coated fabric	Soft coated fabric	Leather/ coated fabric/ synthetic material	Leather/coated fabric/ synthetic material	Leather/coated fabric/ synthetic material	Leather/coated fabric/ synthetic material

6 TESTS

The maximum acceptable level and method of test for the migration of elements antimony, arsenic, barium, cadmium, chromium, lead, mercury and selenium in baseball shall be tested as per IS 9873 (Part 3). The maximum acceptable level of certain phthalates esters in baseball shall be as per IS 9873 (Part 9) and it shall be determined as method given in IS 9873 (Part 6).

7 PACKING AND MARKING

7.1 Packing

Each ball shall be wrapped in moisture-proof paper and packed in cardboard boxes or as agreed to between the purchaser and the manufacturer.

7.2 Marking

7.2.1 The baseball/package shall be marked with the following:

a) Manufacturer's name or initials, or recognized trade-mark;
b) Name of the material and type of the ball;
c) Net weight of the ball;
d) Batch or lot number; and
e) Month and year of manufacturing.

7.2.2 *BIS Certification Marking*

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the product(s) may be marked with the standard mark.

ANNEX A
(*Foreword*)

COMMITTEE COMPOSITION

Sports Goods Sectional Committee, PGD 41

Organization	*Representative(s)*
Sports Goods Export Promotion Council	SHRI TARUN DEWAN (***Chairperson***)
All India Lawn Tennis Association, New Delhi	SHRI NAR SINGH
Anand & Anand	SHRI ASHISH ANAND
Athletic Federation of India	SHRI SANDEEP MEHTA SHRI GOPALA KRISHNAN (*Alternate*)
Central Institute of Plastics Engineering & Technology (CIPET), Murthal	DR S. N. YADAV
COSCO India Pvt Ltd, Gurgaon	SHRI PANKAJ JAIN SHRI NARINDER JAIN (*Alternate*)
Director Equipment Sports Authority of India, New Delhi	SHRI ROQUE DIAS
Freewill Sports Pvt Ltd, Jalandhar	SHRI RAJESH KHARBANDA
Government e Market Place, New Delhi	SHRI N K MALHOTRA
Gymnastic Federation of India, Mumbai	SHRI RIAZ BHATI
Hockey India	COMMANDER R K SRIVASTAVA
Micro, Small and Medium Enterprises, Technology Development Centre, New Delhi	SHRI V. K. SINGH
NELCO (India) Pvt Ltd, Meerut	SHRI AMBER ANAND
Office of Development Commissioner (MSME), Delhi	SHRI SUNIL GUPTA
Premier Enterprises, Meerut	SHRI SUMESH AGARWAL SHRI KSHITIJ AGARWAL (*Alternate*)
Process Cum Product Development Centre, Meerut	SHRI SUNIL GUPTA
Ranson Sports Industry, Jalandhar	SHRI ARVIND SINGH RANA
Sanspareils Greenlands Pvt Ltd, Meerut	SHRI PUNEET ANAND ALOK MISHRA (*Alternate*)
Shri Ram Institute For Industrial Research, Delhi	DR VINAY TYAGI
Soccer International Pvt Ltd, Jalandhar	MS SHAALINI GUPTA

Softball Association of India	MS SHIBANI TAGORE
Sports Goods Manufacturers and Exporters Association (SGMEA), Jalandhar	MS HARSHITA
Sports Line, New Delhi	SHRI OJASVI NAGPAL
Stag International Sports, Meerut	SHRI RAKESH KOHLI SHRI VIVEK KOHLI (*Alternate*)
Universal Sports, Jalandhar	SHRI MAHESH CHADHA
Vats Sports, Meerut	SHRI LOKESH VATS
Voluntary Organisation In Interest Of Consumer Education (Voice), New Delhi	SHRI M. A. U. KHAN
BIS Directorate General	SHRI R. R. SINGH, SCIENTIST 'E'/DIRECTOR AND HEAD (PRODUCTION AND GENERAL ENGINEERING DEPARTMENT) [REPRESENTING DIRECTOR GENERAL (*Ex-officio*)]

Member Secretary
SHRI AJAY KUMAR
SCIENTIST 'B'/ASSISTANT DIRECTOR
(PRODUCTION AND GENERAL ENGINEERING DEPARTMENT), BIS

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act*, 2016 to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the website-www.bis.gov.in or www.standardsbis.

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Amendments Issued Since Publication

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